INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2005/000283

A. CLASSIFICATION OF SUBJECT MATTER
Int.Cl[7] C12N15/11, C12N15/09, A01H5/00, C12N1/15, C12N1/19, C12N1/21, C12N5/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
Int.Cl[7] C12N15/11, C12N15/09, A01H5/00, C12N1/15, C12N1/19, C12N1/21, C12N5/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
SwissProt/PIR/Geneseq, Genbank/EMBL/DDBJ/Geneseq, PubMed, CA/MEDLINE/WPIDS/BIOSIS/REGISTRY(STN)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	R, Z, AKBERGENOV, et al., ARC-1, a sequence element complementary to an internal 18S rRNA segment, enhances translation efficiency in plants when present in the leader or intercistronic region of mRNAs., Nucleic.Acids. Res., 12 January, 2004 (12.01.04), Vol.32, No.1, pages 239 to 247	1,4-10 2,3
X A	WO 02/101006 A2 (ICON GENETICS, INC.), 19 December, 2002 (19.12.02), & US 2003/0084482 A1 & JP 2004-535192 A	2,3,6-10 1,4,5
X A	WO 02/083867 A2 (ICON GENETICS, INC.), 24 October, 2002 (24.10.02), & CA 2411649 A & US 2004/0014216 A1	2,3,6-10 1,4,5

[X] Further documents are listed in the continuation of Box C. [ ] See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
23 March, 2005 (23.03.05)	05 April, 2005 (05.04.05)
Name and mailing address of the ISA/ Japanese Patent Office	Authorized officer
Facsimile No.	Telephone No.

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	WO 03/012035 A2 (ICON GENETICS, INC.), 13 February, 2003 (13.02.03), & US 2003/0084484 A1 & CA 2453178 A	2,3,6-10 1,4,5
X A	JP 2003-070477 A (The Institute of Physical and Chemical Research), 11 March, 2003 (11.03.03), (Family: none)	3,6-10 1,2,4,5
A	Y. Y. YAMAMOTO, et al., Gene trapping of the Arabidopsis genome with a firefly luciferase reporter., Plant.J., (2003), Vol.35, pages 273 to 283	1-10
A	WO 02/29068 A2 (ICON GENETICS AG.), 04 November, 2002 (04.11.02), & CA 2421306 A & US 2004/0055037 A1	1-10
A	WO 02/068664 A1 (ICON GENETICS AG.), 06 September, 2002 (06.09.02), & DE 10109354 A & CA 2429501 A	1-10
A	P, A, IVANOV, et al., A Tobamovirus genome that contains an internal ribosome entry site functional in vitro., Virology (1997), Vol.232, pages 32 to 43	1-10
A	P, Urwin, et al., Functional characterization of the EMCV IRES in plants., Plant J. (2000), Vol.24, No.5, pages 583 to 589	1-10
A	WO 01/0059138 A2 (VLAAMS INTERUNIVERSITAIR INSTITUUT VOOR BIOTECHNOLOGIE VZW), 16 August, 2001 (16.08.01), & AU 4236001 A & US 2003/0051261 A1	1-10
A	W. ZHOU, et al., Transcript leader regions of two Saccharomyces cerevisiae mRNAs contain internal ribosome entry sites that function in living cells., Proc.Natl.Acad.Sci., USA, (2001), Vol.98, No.4, pages 1531 to 1536	1-10
A	W., ZHOU, et al., Isolation and identification of short nucleotide sequences that affect translation initiation in Saccharomyces cerevisiae., Proc.Natl.Acad.Sci.USA, (2003), Vol.100, No.8, pages 4457 to 4462	1-10
A	A, H, JHEON et al., Characterization of the 5'-flanking region of the rat AJ18 gene., Gene(2003), Vol.310, pages 203 to 213	1-10

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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

The base sequence represented by SEQ ID NO:2 contains the base sequence represented by SEQ ID NO:3. Thus, it is recognized that the base sequence represented by SEQ ID NO:3 is a partial sequence of the base sequence represented by SEQ ID NO:2.

There is no chemical structure common to the base sequences represented by SEQ ID NOS:1, 2 (or 3) and 4 in the inventions according to claims 1 to 10. Thus, the matter common to claims 1 to 10 resides exclusively in "a polynucleotide functioning as an IRES (internal ribosome entry site) in a plant".

However, DNA comprising the base sequence (continued to extra sheet)

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☒ No protest accompanied the payment of additional search fees.

Continuation of Box No.III of continuation of first sheet(2)

represented by SEQ ID NO:4 and functioning as IRES in a plant is described in document 1 (WO 02/101006 A2 19 December, 2002 (19.12.02) & US 2003/0084482 A1 & JP 2004-535192 A), document 2 (WO 02/083867 A2 24 October, 2002 (24.10.02) & CA 2411649 A & US 2004/0014216 A1) and document 3 (WO 03/12035 A2 2003.02.13 & US 2003/0084484 A1 & CA 2453178 A). Thus, the above common matter falls within the category of prior art and it does not appear that "a polynucleotide functioning as an IRES (internal ribosome entry site) in a plant" is a special technical feature in the meaning within PCT Rule 13.2.